



OFFICE OF THE ASSISTANT TO THE SECRETARY OF DEFENSE
1400 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-1400



PUBLIC AFFAIRS

Ref: 94-F-1110

0 8 JUN 1995

This responds to your May 9, 1995, Freedom of Information Act (FOIA) request pertaining to a copy of "A Soviet Paramilitary Attack on US Nuclear Forces - A Concept."

Your request was processed by the Advanced Research Projects Agency which has provided the enclosed document as responsive.

There are no assessable fees for this response.

Sincerely,

A. H. Passarella
Director
Freedom of Information
and Security Review

Enclosure:
As stated

#7509

UNCLASSIFIED

~~SECRET~~

FOR FURTHER TRAN

048-4S-13665/102

2

ADC014341

RDA-TR-4301-001

A SOVIET PARAMILITARY ATTACK ON U.S. NUCLEAR
FORCES - A CONCEPT (U)

NOVEMBER 1974

JUN 1 - 1995

By:
L.G. GREF
A.L. LATTER
E.A. MARTINELLI
H.P. SMITH

THIS DOCUMENT HAS BEEN DOWNGRADED
TO UNCLASSIFIED BY AUTHORITY
OF THE DIRECTOR ARPA, S&IO

Sponsored by:
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
ARPA Order No. 2558

AD No. _____
DDC FILE COPY

The views and conclusions contained in this document
are those of the authors and should not be interpreted
as necessarily representing the official policies,
either expressed or implied, of the Defense Advanced
Research Projects Agency or the United States Government.

DDC
RECEIVED
JUN 6 1978
D



R & D ASSOCIATES
Post Office Box 3580
Santa Monica,
California, 90403

525 WILSHIRE BOULEVARD • SANTA MONICA • TELEPHONE: (213) 451-5838

NATIONAL SECURITY
INFORMATION
Unauthorized Disclosure Subject to
Criminal Sanctions.

DD254 DTD 9AUG74
CLASSIFIED BY MDA903-74-C-0090 ✓
EXEMPT FROM GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652
EXEMPTION CATEGORY 3
DECLASSIFY ON INDEFINITE

UNCLASSIFIED

S 15015-C. 102

**This research was supported by the Defense Advanced
Research Projects Agency of the Department of Defense
under Contract No. MDA903-74-C-0090.**

UNCLASSIFIED~~SECRET~~

(This page is unclassified)

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER RDA-TR-4301-001	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) A SOVIET PARAMILITARY ATTACK ON U.S. NUCLEAR FORCES - A CONCEPT (U)	5. TYPE OF REPORT & PERIOD COVERED Technical Report	
7. AUTHOR(s) L. G./Gref, A. L./Latter, E. A./Martinelli H. P./Smith	8. PERFORMING ORG. REPORT NUMBER	
9. PERFORMING ORGANIZATION NAME AND ADDRESS R & D Associates P.O. Box 3580 Santa Monica, Calif. 90403	9. CONTRACT OR GRANT NUMBER(s) MDA903-74-C-0090	
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency 1400 Wilson Blvd. Arlington, VA 22209	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS ARPA Order- 2558 Program Code 4F10	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Defense Supply Service - Washington Room 1D245, The Pentagon Washington, D.C. 20310	12. REPORT DATE November 1973	
	13. NUMBER OF PAGES 13	
	15. SECURITY CLASS. (of this report) SECRET	
	15a. DECLASSIFICATION DOWNGRADING SCHEDULE XGDS	
16. DISTRIBUTION STATEMENT (of this Report)		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Paramilitary ICBM Strategic forces Bomber NATO SSBN Nuclear forces Nonnuclear attack		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This paper discusses the feasibility of a Soviet paramilitary attack on the U.S. and NATO nuclear forces.		

(This page is unclassified)

DD FORM 1 JAN 73 1473

OBSOLETE

~~SECRET~~**UNCLASSIFIED**

1 SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

13

UNCLASSIFIED

TABLE OF CONTENTS

	<u>Page</u>
1. Introduction	1-1
2. Credibility	2-1
3. ICBM Attack Forces	3-1
4. Bomber Attack Forces	4-1
5. Submarine Attack Forces	5-1
6. Surreptitious Entry and Logistics	6-1
7. Conclusions and Recommendations	7-1

ADDITIONAL TO	
DTB	White Section <input type="checkbox"/>
DDO	Staff Section <input checked="" type="checkbox"/>
CLASSIFIED	<input type="checkbox"/>
JUSTIFICATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	AVAIL. and/or SPECIAL
9	

UNCLASSIFIED

~~CONFIDENTIAL~~
UNCLASSIFIED

SECTION 1. INTRODUCTION (U)

(U) ~~(C)~~ This paper discusses a possible military threat to the U.S. that has received little attention: namely, a Soviet paramilitary attack on the U.S. and NATO nuclear forces. Such an attack could be carried out by a well-trained, suitably equipped Soviet paramilitary force of perhaps a thousand, working in units of one or two. In principle, these people could enter surreptitiously into the U.S. and other NATO countries, and destroy their assigned targets--the ICBMs, strategic bombers, SSBNs, and NATO nuclear delivery systems--at a predesignated time.

(U) ~~(C)~~ This threat is a variant of the well recognized threat posed by terrorist groups that might seek to steal or destroy one or several nuclear weapons. A paramilitary group organized and supported by the economic and technical resources of the Soviet Union could represent the ultimate clandestine threat to the U.S. nuclear forces.

(U) Whereas paramilitary operations in the past have met with considerable success against limited objectives, they have not been a significant factor in the outcome of a conventional war between two major powers. Before the era of nuclear weapons, a paramilitary force would have had to destroy many tens of thousands of targets to impair a major military power's capability and willingness to resist domination. These targets included military units, logistic support, industrial capacity and population centers. A coordinated attack involving tens of thousands of elements on such a vast target system constituted a major military operation, and paramilitary actions could play only a minor role. Nuclear strategic war, however, is quite different because the destruction of only a few thousand easily identified, lightly guarded and generally insulated targets--the nuclear delivery platforms--could significantly change the strategic balance and could be decisive. Such a limited target system is peculiarly vulnerable to attack by paramilitary means.

~~CONFIDENTIAL~~

UNCLASSIFIED

UNCLASSIFIED

~~CONFIDENTIAL~~

(U) (C) It is an irony of the nuclear age that the deployment of vastly more destructive weapons by the major military powers has, by its very nature, increased the vulnerability of the superpowers to attack by the small, highly motivated, professional forces that characterized military operations of the more distant past. The question, of course, arises as to whether Soviet use of such tactics to destroy the modern nuclear arsenal of the U.S. is credible. Military operations planners may argue that such an attack is too elegant for practicality, too subject to random chance, and has too low a probability of success. However, the probability of success, from the Soviets' viewpoint, will depend to a large extent on their care and completeness in planning and the extent of U.S. preparedness, including planning and countermeasures. It is our purpose here to establish that this military threat deserves more definitive study and documentation.

UNCLASSIFIED

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~
UNCLASSIFIED

SECTION 2. CREDIBILITY (U)

(U) ~~(S)~~ To establish the credibility of such a threat requires a study effort which seeks in-depth answers to many questions. No attempt will be made to do that in this concept paper; rather, only plausibility arguments will be presented. The remainder of this section develops a plausibility argument to show that a small Soviet force could be assembled, trained, and moved to the strategic nuclear delivery systems inside the U.S. and NATO countries.

(U) It is unlikely that the U.S. would detect the existence and purpose of this force before attack. We estimate that such a force would constitute less than one percent of the Warsaw Pact's present paramilitary capability, which includes 50,000 dedicated troops, together with other paramilitary units such as those of the KGB.

(U) For example, the possibility of moving paramilitary units through Mexico, into the U.S. and to their targets, without detection, seems serious when one considers the limited effectiveness of the U.S. internal security forces in stopping illegal traffic in aliens and narcotics. The probability of a paramilitary unit being detected or captured prior to the attack could be further minimized by maintaining the independence of the units and limiting their interaction with each other and with the U.S. populace. The usual procedure of limiting the detailed knowledge of any unit to that required for performance of its precise mission would severely constrain the information that might be obtained from a paramilitary unit, which in turn might be interrogated by U.S. authorities. A judicious choice of the time and conditions for the attack, for example during detente, would further reduce the credibility of any defecting or captured unit. In addition, the Soviets would probably delay and confuse any U.S. reaction by disguising the attack under a cloak of U.S. terrorist or fanaticist activity. As a result, it might be weeks before the U.S. could establish the credibility required to take serious

~~CONFIDENTIAL~~

UNCLASSIFIED

UNCLASSIFIED

~~CONFIDENTIAL~~

action. Moreover, if the U.S. is unprepared for such an attack, the probability that a paramilitary force could move to the nuclear targets without detection would be enhanced.

(U) (C) It might be argued that a paramilitary attack requires sufficient simultaneity to preclude U.S. nuclear retaliation during the attack. In addition, it might be argued that at least some of the SSBNs at sea would survive a paramilitary attack with more than enough nuclear warheads to destroy an unacceptably large portion of the Soviet urban industrial base. Thus, it might be concluded that the Soviets would be deterred from employing a paramilitary attack against our land-based nuclear forces and hence such attacks need be of little concern to us.

(U) (C) These same arguments apply to the deterrence of a Soviet nuclear attack against our nuclear forces, but with one important difference: the paramilitary attack could be achieved by nonnuclear means and at such a low level of violence that collateral damage to the U.S. value system would be insignificant. As a result, the U.S. might be more reluctant to use its nuclear forces during a paramilitary attack or to use whatever nuclear forces remained after the attack. This would be especially true if, as a result of the paramilitary attack, the Soviets were to obtain a vastly superior strategic position over the U.S. and NATO nuclear forces.

(U) (C) In such a circumstance we would have no incentive to use nuclear weapons. If the Soviets provided additional incentive through other overt acts, they might well expect that under these circumstances we would lack the resolve to initiate the use of nuclear weapons--a resolve that has been questioned even with nuclear parity--as a response to a nonnuclear attack of Europe. Therefore, the expectation of some surviving U.S. nuclear force cannot be counted on to deter the Soviets from executing and exploiting a paramilitary attack as part of a larger war plan, e.g., the takeover of Western Europe.

~~CONFIDENTIAL~~

UNCLASSIFIED

~~CONFIDENTIAL~~

UNCLASSIFIED

(u) (c) ~~(P)~~ Actually, it is not obvious that a significant residual force will remain. We will show later that many SSBNs at sea could be compromised by conventional sabotage, a tactic well known to the paramilitary operatives. The problem of locating the SSBNs at sea is a matter of degrees of difficulty. On the first launch of a missile, the SSBN is rather easily located. During pre-launch, they are somewhat more difficult to find, and during patrol, they can be detected and tracked only at considerable cost in equipment and effort. However, once located they may be more easily destroyed than silos because a greater miss distance with a given warhead size can be tolerated. The confidence in the kill may be greater as well. Attacking the SSBNs at sea with missiles carrying nuclear warheads still insures that there is no collateral damage to the U.S. urban-industrial base. Further, any residual land-based forces could be destroyed by using commandos or even nuclear missiles. Under these circumstances, the Soviets might calculate that the residual force would be negligible and be prepared to accept a retaliatory strike.

(u) (c) ~~(S)~~ From the foregoing, we conclude that the threat of a Soviet paramilitary attack on the U.S. and NATO nuclear forces may be comparable to the threat of direct nuclear attack. The next sections of this report address the equipment and manpower needs for such a paramilitary force. Then, in Section 6, the problem of surreptitious entry and clandestine logistics for the derived force sizes is considered. Finally, conclusions and recommendations are stated in Section 7. Our intent throughout this paper is not to describe in detail the paramilitary measures that the Soviets would take, but rather to demonstrate that such a threat deserves attention.

~~CONFIDENTIAL~~

UNCLASSIFIED

UNCLASSIFIED

SECTION 3. ICBM ATTACK FORCES (U)

(U) (S) Detailed analyses show that Minuteman and Titan silo doors can be penetrated by a 40-pound shaped charge. Flammable fluids then poured through the breach caused by the shaped charge and ignited would assure catastrophic damage to the missile. Alternatively, a 75-pound shaped charge will penetrate the closure, the nose cone, and substantially damage the missile warhead. Thus, the total amount of equipment required to destroy a Minuteman or a Titan is under 100 pounds and could be concealed and transported in the trunk of a small car.

(U) (S) Because the missile site has only one security fence and is otherwise unguarded, one man could destroy a missile within five minutes which is less than the response time of the base security guards, including those using helicopters, to arrive at all but a few silos. The response times for the more remote sites are potentially sufficient to allow an attacker to destroy several sites. Under these assumptions, it would be possible for less than 650 men with 50 tons of explosives and flammable material to attack and destroy essentially all of the Minuteman and Titan missiles. The paramilitary agent may even have a high probability of avoiding capture due to the relative paucity of security forces; he would not be engaged in a Kamikaze mission.

(U) (S) The Pershing missiles of NATO represent targets that may be more easily destroyed. During low DEFCON levels, Pershing launchers are parked either at presurveyed, dispersed, concrete pads or at a Caserne. The dispersed ones are in the midst of a double-fenced, well-lighted and guarded clear zone. It may be possible for one person to approach the zone clandestinely and destroy the missile with standard troop portable antitank equipment. Those at the Caserne are relatively clustered and are vulnerable to fragmenting weapons. Attack by mortar teams or low-flying civil aircraft modified to drop bombs may be possible. The four German and three American Pershing battalions could possibly be attacked by fewer than 50 men and 10 tons of equipment.

UNCLASSIFIED

UNCLASSIFIED

SECTION 4. BOMBER ATTACK FORCES (U)

(U) (C) The primary vulnerability of bombers, parked at well-known U.S. and NATO bases, is the large fraction of the aircraft (area and volume) occupied by fuel tanks. Penetrating these tanks is relatively simple, and igniting the fuel—sufficient fuel remains in "empty" tanks—is catastrophic. Laser-designated rockets could provide an effective means for attacking the aircraft from outside the base complex. The laser equipment, rocket, and launch platform of the type used by the U.S. for antitank missions has a combined weight of less than 100 pounds, a range of several nautical miles, and each component is combat-troop portable. A two-man team would be sufficient to attack every few aircraft. Thus, it may be possible for less than 150 men and 15 tons of equipment to destroy essentially the entire strategic bomber force.

(U) (C) Preliminary examination of a few B-52 bases suggests that a covert site for deployment of the rocket equipment can be found within line-of-sight range of the parked bombers. Although careful disguise of the rocket and launch platform presents a challenge, transport of the equipment within the trunk of a modern automobile is simple.

(U) (S) Those aircraft in the air in support of training and exercises, which would be immune to such attacks, could be minimized by selection of an optimum time for attack. For example, exercises are scheduled in advance, and training flights generally occur during daylight. Those in the air, however, do not carry nuclear weapons and would eventually have to return to the bases. Concepts for attacking aircraft landing or taking off with automated equipment placed near the end of the runway have been studied and tested by others.* Some of the NATO aircraft are placed in

(U) *See, for example, Project Little David developed by the Sandia Corporation.

UNCLASSIFIED

UNCLASSIFIED

~~SECRET~~

semi-hardened hangarages--concrete and steel structures--which probably present much more difficulty to the attacker. Specialized concrete penetrating standoff weapons or direct access to the hangarage--a violation of base security--may be required. Neither of these is impossible and both, in our opinion, deserve study.

UNCLASSIFIED

~~SECRET~~

UNCLASSIFIED

SECTION 5. SUBMARINE ATTACK FORCES (U)

(U) (C) It is widely assumed that once a Poseidon submarine has arrived at its patrol station and has changed from a "transit" to a "patrol quiet" status, it will remain undetected for sixty days. We see no need to question this assumption here, provided the submarine has not been clandestinely "attacked" while in port where it is stripped of its principal line of defense, that of undetectability. Although, it would appear that the SSBN force presents a very difficult problem to the planner of a nuclear strike, it may be the most vulnerable of the strategic forces to a paramilitary attack

(U) (S) Clandestine placement of a device aboard the submarines while in port could exploit a number of potential vulnerabilities--of the crew, of the missiles, or of the boat itself. Such a device would have to be timed and include explosives or air, water, or food contaminants. Placing a disguised timed explosive clandestinely on the second stage of the missile tube has been studied and found to be feasible unless carefully guarded against. The resultant destruction of the SSBN at sea would be instantaneous and complete, and would appear to be accidental. Deployment of Trident accompanied by the reduction in the total number of SSBNs and the utilization of a single port should simplify this type of attack for the Soviets.

(U) (S) It is not necessary that clandestine devices be destructive and "unrecallable" for the concept of a Soviet paramilitary attack to be credible. We have observed that the advantage of a paramilitary attack is the elimination of collateral damage to the U.S. urban and industrial base; attacking the SSBNs at sea with nuclear weapons preserves this advantage. Preliminary investigations have shown that clandestine tagging of the SSBNs while they are in or leaving port would provide the means for locating and destroying them with missile-delivered, nuclear weapons at a selected later time. This approach to the problem of the SSBNs at sea would thus be a direct attack.

SECRET

UNCLASSIFIED

UNCLASSIFIED

~~SECRET~~

(U) Submarines in port present a large, visible, stationary target, vulnerable to torpedo, mini-RPV, mortar fire or direct attack by terminally guided long-range rockets. In some of these attacks, total destruction of the submarine or its weapons is unlikely unless one of the missile stages is ignited. However, the ability to go to sea and/or to launch missiles could be denied for days. Nuclear targeting could follow, if necessary.

(U) ~~(S)~~ Our investigation of port security at Holy Loch and at Rota suggests that attachment of covert explosives to the hull is a distinct possibility and must be guarded against continuously. A torpedo launched from a nearby fishing vessel may be a possible alternative. However, this approach may be technically difficult, and safe escape would pose problems. Less likely, but still conceivable, would be the employment of a ~~para~~-military unit using RPVs or mortars to attack the SSBNs from readily accessible but hidden land areas. The precise details of an attack would, of course, have to be tailored to the local characteristics of the port in question. Complete reliance on Trident will reduce the number of SSBN ports to one: Bangor, Washington. Because it appears likely that other Puget Sound ports will be ports-of-call for Soviet commercial vessels, the close approach of Soviet equipment and personnel to the anchored Trident submarines will not be a problem.

~~SECRET~~

UNCLASSIFIED

~~SECRET~~

UNCLASSIFIED

SECTION 6. SURREPTITIOUS ENTRY AND LOGISTICS (U)

(U) ⁵ A successful paramilitary attack on the nuclear forces depends on transporting approximately 1000 persons and 100 tons of munitions into attack position. These figures should be compared with the following pertinent statistics:

- 1) 200 million border crossings annually;
- 2) 7 million illegal aliens residing in the U.S. with 1 million more expected this year;
- 3) 360 million tons of goods imported annually;
- 4) 115 tons of morphine and heroin seized annually by agents (a small percentage of the total traffic); and
- 5) 500,000 cars and light trucks available for rental within the U.S. on a daily basis.

The above numbers indicate that the logistics associated with a paramilitary attack are eclipsed by ordinary activities, both legal and illegal.

(U) Minimizing the risk of exposure is paramount in planning and undertaking a clandestine operation. The risk of exposure is dependent on the skill and timing of the agent, how long the agent must remain in the country, and the amount of contact required with other agents within the group and with the populace in general. There are undoubtedly numerous Soviet agents unknown to U.S. authorities already residing in the U.S.

(U) A scenario which appears to offer a low risk of exposure is to enter the Soviet agents through Mexico, using false documentation. Planning could be supported by the normal Soviet intelligence gathering apparatus. The operation might begin with the infiltration of a small group establishing themselves around the country with the purpose of receiving, accumulating, and supplying a subsequent larger force with the required destruction materials, and providing communications and intelligence support.

~~SECRET~~

UNCLASSIFIED

UNCLASSIFIED

~~CONFIDENTIAL~~

During this phase of the operation, paramilitary units could be trained outside the U.S. using feedback from the vanguard agents on the target locations and on the unique problem areas to be encountered. Once within the U.S., the only contacts with other Soviet agents would be to obtain the location of his materials, to acquire an update on the intelligence information pertinent to his individual mission, and to receive the precise time to penetrate and destroy his target.

(U) Movement of men and materials within the U.S. might be effected by using public transportation and rented vehicles. Credit cards, drivers licenses, etc., could be obtained by the vanguard unit from appropriate agencies or could be falsified, depending on the relative risks of exposure.

(U) (c) There might be some thought that the movement of 1000 foreigners towards the strategic bases, and, in particular, the movement of 50-100 within a Minuteman wing, would expose the paramilitary action. This risk we believe to be slight since many of the silos are deployed along highways with hundreds of cars and trucks traversing them in a single day.

UNCLASSIFIED

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~
UNCLASSIFIED

SECTION 7. CONCLUSIONS AND RECOMMENDATIONS (U)

(U) (C) Based on these limited considerations, we conclude that the threat of a Soviet paramilitary attack on the U.S. and NATO nuclear forces should be taken seriously. In fact, we believe this problem ranks in importance with that of Soviet nuclear attacks on the nuclear force.

(U) (C) We recommend that ARPA—cooperating with the military services, the FBI and others—take the initiative to further explore the possibilities of a paramilitary attack on the U.S. and NATO nuclear forces by analyzing the associated problems to a much greater depth, to identify countermeasures that might be practical, and to explore the potential for the U.S. to exploit a paramilitary capability against foreign nuclear forces. Examples of tasks that should be initiated are as follows:

- 1) Develop candidate plans or scenarios for such an operation.
- 2) Probe the Intelligence Community for evidence as to how the Soviets do paramilitary operations.
- 3) Examine the ICBM, bomber and SSBN base security systems in order to:
 - Assess their vulnerability to paramilitary attack of the type envisioned above.
 - Suggest technical means to alleviate these vulnerabilities.
 - Suggest procedural means to alleviate these vulnerabilities.

(U) ARPA is an appropriate agency to explore this problem because:

- 1) No single service or agency is responsible for the total security problem. The Army is responsible for developing internal security devices and the USAF for external security devices. The Air Force and the Navy are responsible for the physical security of their respective force elements. The FBI is responsible for U.S. internal security. The Border

~~CONFIDENTIAL~~

UNCLASSIFIED

SECRET

UNCLASSIFIED

(This page is unclassified)

Patrol and Customs Bureau are responsible for security of the borders against illegal aliens and smuggled goods. The CIA is responsible for intelligence support to the security forces.

- 2) Technological innovativeness may play a major role in the success of such an endeavor--particularly in the areas of automated surveillance and non-lethal booby traps.

UNCLASSIFIED

(This page is unclassified)

SECRET